

MONROE (W. S.)

Child Study Outlines.

THIRD SERIES.

STUDY OF DEFECTIVE CHILDREN.

BY

WILL S. MONROE.

DEPARTMENT OF PSYCHOLOGY, STATE NORMAL SCHOOL,
WESTFIELD, MASS.

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STATE NORMAL SCHOOL,
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CONTENTS.

- I. MENTALLY DEFICIENT CHILDREN.
- II. HEARING OF SCHOOL CHILDREN.
- III. EYESIGHT OF SCHOOL CHILDREN.
- IV. TRUANTS AND JUVENILE DELINQUENTS.
- V. NERVOUSNESS OF SCHOOL CHILDREN.
- VI. FUNCTIONAL NEUROSES AMONG SCHOOL CHILDREN.
- VII. SPINAL CURVATURE AND LOCOMOTOR ATAXIA.
- VIII. DEFECTIVE SPEECH: STAMMERING AND STUTTERING.

Children

Monroe

CONTENTS

- I. Methods of Testing Children
- II. History of School Children
- III. Record of School Children
- IV. Factors and Factors Influencing
- V. Measurement of School Children
- VI. Psychological History of School Children
- VII. Social Character and Educational Status
- VIII. Individual Factors: Intelligence and Personality

STATE NORMAL SCHOOL, WESTFIELD, MASS.

Child Study Outlines: Third Series.

I. MENTALLY DEFICIENT CHILDREN.

Our work is one ever changing in form, but never changing in object. It is a work in which the teacher, the nurse, the physician, the philosopher and the moralist have all something to do; but all that each does must be done in the spirit of affection. Moral association, sociability, family affinity,—all these have to be created in the mentally deficient; their sense of affection stands in need, like all their other senses, of development. All of these poor children may be taught to love by being loved. We must bring skill, even genius, to our task; we must understand all mysteries and all knowledge; we may speak with the tongues of men and of angels, and if we have not love, it will profit us nothing.—*Edouard Seguin.*

I. CHARACTERISTICS OF MENTAL DEFICIENCY.

(a) *Cranial Abnormalities.*—1. Cranium large, small or bossed, and often marked asymmetry of skull. 2. Forehead narrow, shallow, or bulging forward and overhanging. 3. Nasal bones wide, shrunk or indented. 4. Upper part of face small.

(b) *Developmental Defects.*—1. External ears outstanding and large. 2. Palate contracted laterally, often V shaped. 3. Mouth small and lips thick. 4. Skin rough and scaly, nails imperfect, and hands blue and cold.

(c) *Abnormality of Nervous Action.*—1. Deficient or excessive muscular activity, and often twitching movements of the face. 2. Irregularity in balance of body. 3. Sense deficiency,—sight, hearing, touch, etc. 4. Speech defects and often stammering.

(d) *Defects of Nutrition.*—Emaciated, wizened features, arising from injudicious or insufficient food.

II. LITERATURE OF MENTAL DEFICIENCY.

(a) *History.*—(1) BOURNEVILLE: Rapport sur l'Assistance des Enfants idiots et dégénérés. Lyons, 1894. (2) FERNALD, WALTER E.: History of the Treatment of the Feeble-minded. Boston, 1893. (3) MONROE, WILL S.:

Fürsorge für die abnormen Kinder in den Vereinigten Staaten. *Die Kinderfehler*, Jan., 1896, Vol. I. (4) SHUTTLEWORTH, GEORGE E.: What is being done in England for Children deficient in Intellect. *Proceedings of American Institutions for Idiotic and Feeble-minded Persons*, 1895, pp. 554-559.

(b) *Causes*. — (1) BICKNELL, EARNEST: Feeble-mindedness as an Inheritance. *National Conference of Charities and Corrections*, 1896, pp. 219-227. (2) HOWE, SAMUEL G.: Causes and Prevention of Idiocy. *Report to the Massachusetts Legislature*, 1848. (3) IRELAND, WILLIAM W.: Mental Affections of Children. Edinburgh, 1898. (4) SEGUIN, EDOUARD: Idiocy and its Treatment by the Psychological Method. New York, 1866. (5) SHUTTLEWORTH and BEACH: Pathology of Idiocy. *Tuke's Dictionary of Psychological Medicine*, Vol. II, pp. 649-665. (6) WILMARTH, A. W.: Causation and Early Treatment of Mental Disease in Children. Chicago, 1894. (7) HRDLICKA, ALES: Anthropological Studies. *Journal of Psycho-Asthenics*. December, 1898, Vol. III, pp. 47-75. (8) WELLS, KATE GANNETT: State Regulation of Marriage. *Proc. Nat. Conf. of Charities and Corrections for 1897*, pp. 302-308.

(c) *Diagnosis*. — (1) BRUSH, E. N.: Idiocy and Imbecility. *Keating's Cyclopædia of Diseases of Children*, Vol. IV., pp. 1019-1037. (2) CLOUSTON, T. S.: Neuroses of Development. Edinburgh, 1891. (3) DU FOUGERAY ET COUËTOUX: Pratique des Méthodes d'Enseignement spéciales aux Enfants anormaux. Paris, 1896. (4) IRELAND, WILLIAM W.: Mental Affections of Children. Edinburgh, 1898. (5) OSBORNE, AUSTIN E.: Nervous and Mental Diseases of School Children. *Institution Bulletin*, August, 1894, Vol. V., pp. 18-25. (6) PIPER, H.: Vorkommende Abnormitäten der Sprachwerkzeuge. *Medizinisch-pädagogische Monatsschrift für die gesamte Sprachherkunde*. Nr. 3 und 4, 1895. (7) SEGUIN, EDOUARD: Idiocy and its Treatment by the Psychological Method. New York, 1866. (8) SHUTTLEWORTH, GEORGE E.: Mentally Deficient Children: their Treatment and Training. London, 1895, pp. 140. (9) TRÜPER, JOHANN: Psychopathische Minderwertigkeiten im Kindesalter. Gütersloh, 1893. (Translated by C. C. Van Liew in *Child Study Monthly* for 1898.) (10) WARNER, FRANCIS: Study of Children. New York, 1897, pp. 264. (11) ZIEHEN, THEODOR: Schwachsinn. *Rein's Encyklopädischen Handbuch der Pädagogik*.

(d) *Training*. — (1) BEACH, FLETCHER: Treatment and Education of Mentally Feeble Children. London, 1895. (2) BARR, MARTIN W.: Training of Feeble-minded Children. *Proc. N. E. A. for 1898*, pp. 1045-1051. (3) JOHNSON, GEORGE E.: Psychology and Pedagogy of Feeble-minded Children. *Pedagogical Seminary*, October, 1895, Vol. III, pp. 246-301. (4) LANGDON-DOWN: Education and Training of the Feeble in Mind. London, 1876. (5) ROGERS, ARTHUR C.: Physical and Industrial Education as Applied to the Feeble-minded. *Proc. Medical Officers of American Institutions for Feeble-minded*, 1889, pp. 100-106. (6) ROYCE, JOSIAH: Mental Defect and Disorder. *Educational Review*, October and November, 1893,

Vol. VII. (7) SEGUIN, EDOUARD: Idiocy and its Treatment by the Psychological Method. New York, 1866. (8) SHUTTLEWORTH, GEORGE E.: Mentally Deficient Children: their Treatment and Training. London, 1895. (9) SOLLIER, PAUL: Psychologie de l'Idiot et de l'imbécile. Paris, 1891, pp. 276. (10) TRÜPER, JOHANN: Psychopathische Minderwertigkeiten im Kindesalter. Gütersloh, 1893.

(e) *Public Schools*.—(1) HANEY, JAMES P.: The Hundredth Child. *New York Teachers' Quarterly*, October, 1898. (2) MONROE, WILL S.: Feeble-minded Children in the Public Schools. *Proc. Medical Officers American Institutions for Feeble-minded*, 1894. (3) SALISBURY, ALBERT: Education of the Feeble-minded. *Proc. Medical Officers American Institutions for Feeble-minded*, 1889, pp. 219-234. (4) SHUTTLEWORTH, GEORGE E.: Mentally Deficient Children. London, 1895. (5) WARNER, FRANCIS: Report on Physical and Mental Condition of 50,000 School Children. Report of Commissioner of Education for 1890-91, Vol. II., pp. 1081-1138. See also the recent reports of Superintendent Tarbell of Providence, Superintendent Balliet of Springfield, and Mrs Burgwin of the London School Board.

(f) *Institution Reports*—Many of the public and private institutions issue reports of great value to those interested in mentally deficient children. Among other reports of special value the following may be named: Massachusetts School for the Feeble-minded, at Waverley, Dr. Walter E. Fernald, superintendent; Pennsylvania Training School for Feeble-minded Children, at Elwyn, Dr. Martin W. Barr, superintendent; Minnesota School for Feeble-minded, at Faribault, Dr. Arthur C. Rogers, superintendent; California Home for the Care and Training of Feeble-minded Children, at Eldridge, Dr. Austin E. Osborne, superintendent; Private Institution for the Education of Feeble-minded Youth, at Barre, Mass., Dr. G. A. Brown, superintendent.

(g) *Journals*.—(1) *Journal of Psycho-Asthenics*. Published quarterly at Faribault, Minn. Price, \$1 a year. Arthur C. Rogers, editor. (2) *Die Kinderfehler*. Published bi-monthly at Langensalza, Germany. Price, 75 cents a year. Johann Trüper, editor. (3) *Revue Internationale de Pédagogie comparative*. Published monthly at Nantes, France. Price, \$1.75 a year. Auguste Mailloux, editor. (4) *Proceedings of the Association of Medical Officers of American Institutions for Idiotic and Feeble-minded Persons*. Published annually by the association. Dr Arthur C. Rogers, Faribault, Minn., secretary.

III. INSTITUTIONS FOR MENTALLY DEFICIENT CHILDREN.

There are in the United States eighteen public and ten private institutions for the care and training of mentally deficient children. The Massachusetts School for the Feeble-minded is located at Waverley. Persons applying for the admission of children must fill out and return to the school certain blanks, copies of which will be forwarded to any address on application to

the superintendent, Dr. Walter E. Fernald. Candidates for admission must be over six years of age. The best age for training and instruction is between eight and twelve. The children of indigent parents in Massachusetts may secure gratuitous admission, in accordance with the law; others may be admitted on such terms as the trustees may determine, according to the responsibilities and difficulties in each case. The Massachusetts School for the Feeble-minded is one of the best-conducted institutions in America. There are also in Massachusetts three private schools for the mentally deficient: at Barre, in charge of Dr. Brown; at Amherst, in charge of Mrs. Herrick; and at Fayville, in charge of Mrs. Greene. The pressing need of the hour is the day school, in the larger towns and cities, for the feebly gifted mentally. Providence, Springfield and one or two other cities have already taken steps in this direction.

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II. HEARING OF SCHOOL CHILDREN.

For more than one hundred years the oral and sign methods have been struggling together in Europe, to see which could do the most good for the deaf. Little by little the oral method has spread, until in 1880 an international convention of teachers of the deaf, held in Milan, declared, by a vote so overwhelming as to be practically unanimous, that the oral method should have precedence over all others in the education of the deaf. — *Alex. Graham Bell.*

I. TESTS FOR THE HEARING.

(a) *Watch Test.* — Ascertain previously how far from the head your watch can be heard by persons with good hearing. Use a measuring tape, holding one end against the ear and the other at the watch. Direct the child to close his eyes, and hold a sheet of paper or a fan to prevent him from seeing the watch, while you have him close the other ear you are not testing with medicated cotton. Carry your watch to different distances from the side of his head. When he says he hears the watch, note the distance, move it to a farther distance, and then back to the former place, and ask him if he hears it. Test him thus several times, and examine each ear separately, noting the distance of hearing with each ear.

(b) *Whisper Test.* — In a somewhat similar manner, words or numbers may be whispered, and the child asked to repeat what he hears. In doubtful cases, both tests may be applied.

II. LITERATURE OF DEAFNESS AND DEAF SCHOOLS.

(a) *History.* — (1) HENRY BARNARD: Tribute to Gallaudet, with History of Deaf-mute Instruction and Institutions. *Barnard's American Journal of Education*, Vol. I., pp. 417-444. (2) ALEX. GRAHAM BELL: Conditions of Articulation Teaching in American Schools for the Deaf. Boston, 1893, p. 72. (3) ALEX. GRAHAM BELL: Facts and Opinions Re-

lating to the Deaf. London, 1888, p. 195. (4) S. M. BRADY: National Deaf-mute College. *Harper's Magazine*, Vol. 69, p. 181. (5) EDWARD A. FAY (editor): Histories of the American Schools for the Deaf, 3 vols., Washington, 1893. (6) JOSEPH C. GORDON: Notes and Observations upon the Education of the Deaf. Washington, 1892, p. 90. (7) GARDINER G. HUBBARD: Introduction of Articulatory System into America. *Science*, Vol. 16, p. 337.

(b) *Causes of Deafness*. — (1) ALEX. GRAHAM BELL: Formation of a Deaf Variety of the Human Race. Washington, 1883, p. 86. (2) W. K. BROOKS: Intermarriage of the Deaf. *Popular Science Monthly*, Vol. 50, p. 15. (3) CHARLES H. BURNETT: Diseases of the Ear in Children. Keating's Cyclopædia of Diseases of Children, Vol. 4, pp. 1-49. (4) A. M. FANNING: Deafness and the Care of the Ears. *Popular Science Monthly*, Vol. 42, p. 211. (5) JOHN KITTO: The Lost Senses. New York, 1852, p. 379.

(c) *Deafness among School Children*. — (1) OSCAR CHRISMAN: Hearing of Children. *Pedagogical Seminary*, Dec., 1893, Vol. 2, pp. 397-441; and *Northwestern Monthly*, June, 1897, Vol. 8, pp. 31-35. (2) SETH SCOTT BISHOP: Clinical Study of Twenty-one Thousand Cases of Diseases of the Ear, Nose and Throat. *Journal of American Medical Association* (Chicago), Sept. 26, 1896. (3) J. F. PERCY: Deafness in School Children, and its Influence on Education. *Child Study Monthly*, Oct., 1895, Vol. 1, pp. 97-109. (4) SAMUEL SEXTON: Causes of Deafness among School Children. Washington, 1881, p. 47. (5) E. WEIL: Examination of the Ears and Hearing of 5,905 School Children. *Archives of Otolology* for 1882, Vol. 11. (6) J. P. WORRELL: Deafness among School Children. *Transactions of the Indiana Medical Society*. Indianapolis, 1881, pp. 25-33. (7) A. G. YOUNG: Defects of Hearing. *7th Annual Report of the State Board of Health of Maine*. Augusta, 1892, pp. 128-131.

(d) *Education of the Deaf*. — (1) THOMAS ARNOLD: Education of Deaf-mutes. London, 1888, p. 382. (2) ALEX. GRAHAM BELL: Method of Teaching Language to a Congenitally Deaf Child. Washington, 1891. (3) ALEX. GRAHAM BELL: Utility of Signs. *The Educator*, May, 1894. (4) ALEX. GRAHAM BELL: Visible Speech as a Means of Communicating Articulation to Deaf Mutes. Washington, 1872, p. 34. (5) ALEX. MELVILLE BELL: English Visible Speech in Twelve Lessons. Washington, 1895, p. 80. (6) MARY E. BOWLES: Emotions of Deaf Children. *Pedagogical Seminary*, Oct., 1895, Vol. 3, pp. 330-334. (7) E. M. GALLAUDET: Values in the Education of the Deaf. *Educational Review*, June, 1892, Vol. 4, pp. 16-26. (8) RICHARD O. JOHNSON: Deaf-mutes and their Education. *Inland Educator*, Vols. 1 and 2. (9) EDOUARD WALTHER: Handbuch der Taubstummenebildung. Berlin, 1895, p. 748. (10) L. E. WARREN: Speech for Deaf Children. *Popular Science Monthly*, Vol. 44, p. 363. (11) HERBERT A. AIKINS: Education of the Deaf and Dumb. *Educational Review*, Oct., 1896, Vol. 12, pp. 236-251.

(c) *Journals and Reports*.—(1) Proceedings of the summer meetings of the American association to promote the teaching of speech to the deaf. Published annually since 1891. (2) *American Annals of the Deaf*. Published quarterly at Washington. Edward A. Fay, editor. (3) *The Educator*. Published monthly at Mt. Airy, Philadelphia, F. W. Booth and S. G. Davidson, editors. (4) The publications of the Volta Bureau, at Washington, D. C., are especially helpful in the study of problems touching the education of deaf children. (5) Annual reports of institutions for the deaf, and notably those of the Clarke Institution at Northampton and the Horace Mann School at Boston.

III. SCHOOLS FOR DEAF CHILDREN.

There are in the United States 54 public institutions, 22 public day schools and 19 private schools for the deaf. The Massachusetts school is the Clarke Institution for the Deaf, at Northampton, Miss Caroline A. Yale, principal. Board and tuition are free to the children of the Commonwealth. Application for admission must be made to Hon. Frank A. Hill, secretary of the State Board of Education, Boston. The Horace Mann School for the Deaf is a public day school, maintained by the city of Boston, Miss Sarah Fuller, principal. Massachusetts children, not residing in Boston, may be admitted and their tuition expenses paid by the State. These two institutions rank unquestionably first among the schools for the deaf in America. There are also two private schools for deaf children in Massachusetts: the Sarah Fuller Home for Little Children who cannot hear, at West Medford, Miss Eliza L. Clarke, principal, and the New England Industrial Institute for Deaf-mutes, at Beverly, Miss Nellie H. Sweet, principal.

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III. EYESIGHT OF SCHOOL CHILDREN.

No phase of school hygiene has received more attention from this generation than the progressive nearsightedness ascribed to school life. If the facts have sometimes been exaggerated, they are, nevertheless, startling enough to call for the most earnest efforts on the part of the teachers and students to understand them, and to mitigate the evil effects with as little loss to the child as is possible. — *Harry K. Wolfe.*

I. TESTS FOR EYESIGHT.

(a) *For Near Sight (Myopia).* — Near sight may be tested by Snellen's type test card. These may be obtained from dealers in optical supplies. Ginn & Co., Boston, furnish one mounted on heavy card board, for thirty-two cents, and the McIntosh Battery and Optical Company, Chicago, furnish one on heavy paper for ten cents. The card should be hung at the end of a well-lighted room, but not where there is a strong reflection of light from its surface. Each eye should be tested separately, holding an opaque object before, but not in contact with, the other eye. The test cards in use will give the distances at which the different sizes of letters should be read.

(b) *For Long Sight (Hyperopia).* — Let the child stand and look at a small coin held before his face two feet from his nose. If you see that his eyes then turn inwards with the appearance of a slight temporary cast or squint, he probably has flat eyes, and requires convex glasses.

(c) *For Astigmatism.* — Use the converging lines (of equal width) at the top of the test cards. Ask if all the lines seem of equal blackness. If some of the lines seem decidedly lighter colored than the others, there is probably astigmatism. Frequency of headache will also suggest astigmatism.

In general, the teacher's province in this department of child study is to examine the eyes of the children once or twice each school year; and where defects seem to exist, to make suggestions to the parents as conditions may warrant.

II. LITERATURE OF EYESIGHT AND THE BLIND.

(a) *History of Schools for the Blind.*—(1) MICHAEL ANAGNOS: Education of the Blind: Historical Sketch of its Origin, Rise and Progress. Boston, 1882, p. 74. (2) HENRY BARNARD: Sketch of Samuel G. Howe. *Barnard's American Journal of Education*, Vol. 11, pp. 389-399. (3) L. P. BROCKETT: Institutions and Instruction of the Blind. *Barnard's American Journal of Education*, Vol. 4, pp. 127-140. (4) M. C. JONES: Education of the Blind. *Scribner's Magazine*, Vol. 12, p. 373. (5) D. STURGIS: Kindergarten for the Blind. *NEW ENGLAND MAGAZINE* (New Series), Vol. 13, p. 433.

(b) *Education of Blind Children.*—(1) F. J. CAMPBELL: Education of the Blind. *Trans. 7th International Congress of Hygiene and Demography*, Vol. 4, pp. 224-236. (2) SAMUEL G. HOWE: Education of the Blind. *Proc. Am. Institute of Instruction* for 1836, pp. 1-26. (3) MAURICE DE LA SIZERANNE: The Blind as Seen Through Blind Eyes. New York, 1893, pp. 154. (4) J. A. ZAHM: New System of Writing for the Blind. *Catholic World*, Vol. 61, p. 32. (5) See also the excellent annual reports of the Perkins Institution, by Director Michael Anagnos.

(c) *Defective Vision.*—(1) ROBERT B. CARTER: Eyesight, Good and Bad. London, 1880, pp. 265. (2) FREDERICK E. CHENEY: Errors of Refraction and Insufficiencies of the Ocular Muscles. *Boston Medical and Surgical Journal*, Feb. 20, 1890. (3) HERMANN COHN: Hygiene of the Eye in Schools. London, 1886, pp. 236. (A standard work of great value to teachers.) (4) GEORGE C. HARLAN: Eyesight, and how to care for it. Philadelphia, 1879, pp. 139. (5) B. JOY JEFFRIES: Some Unnecessary Causes of Impaired Vision. *Boston Medical and Surgical Journal*, 1869, pp. 209-213. (6) B. JOY JEFFRIES: Our Eyes and Our Industries. *4th Annual Report of the State Board of Health of Massachusetts*, pp. 87-117. (7) FRANCISQUE SARCEY: Mind your eyes: Advice to the Short-sighted. London, 1886, pp. 87. (8) W. F. SOUTHARD: The Modern Eye, with an Analysis of 1,300 Errors of Refraction. San Francisco, 1893, pp. 32. (9) G. T. STEVENS: Functional Nervous Diseases, their Causes and their Treatment. New York, 1887, pp. 217. (10) CHARLES S. TURNBULL: Diseases of the Eye. *Keating's Cyclopædia of the Diseases of Children*, Vol. 4, pp. 120-157. (11) S. YORKE: Defective Vision. *Popular Science Monthly*, Vol. 24, p. 357.

(d) *Eyesight of School Children.*—(1) FRANK ALLPORT: Tests for Defective Vision in School Children. *Educational Review*, Sept., 1897, Vol. 14, pp. 150-159. (2) A. M. CALHOUN: Effects of Student Life Upon Eyesight, Bureau of Education. Washington, 1881, pp. 29. (3) P. A. CALLAN: Influence of School Life on Eyesight. *Catholic World*, Vol. 40, p. 559. (4) HERMANN COHN: Eyes and School Books. *Popular Science Monthly*, Vol. 19, p. 54. (5) W. S. DENNETT: Report of Examination of the Eyes of the Pupils in the Schools of Hyde Park, Mass. *Report of School Committee of Hyde Park for 1880*. (6) W. MCLEAN: Effects of Study on Eye-

sight. *Popular Science Monthly*, Vol. 12, p. 74. (7) ARTHUR NEWSHOLME: Eyesight in Relation to School Life. In "School Hygiene," Boston, 1894, p. 104-115. (8) S. D. RISLEY: Defective Vision in School Children. *Educational Review*, April, 1892, Vol. 3, pp. 348-354. (9) EDWARD W. SCRIPTURE: The Bad Eye Factory. *The Outlook*, Vol. 53, p. 392. (10) EDGAR J. SWIFT: Eye Defects in Students and Children. *Pedagogical Seminary*, Oct., 1897, Vol. 5, pp. 202-220. (11) C. H. WILLIAMS: Use and Care of Eyes, especially during School Years. In "Six Lectures upon School Hygiene," Boston, 1886, pp. 65-90. (12) HARRY K. WOLFE: Defects of Sight. *Northwestern Monthly*, July, 1897, Vol. 8, pp. 35-39. (13) A. K. WHITCOMB: Defective Vision, Corrected and Uncorrected. *Northwestern Monthly*, January, 1899, Vol. 9, pp. 237-239.

(c) *Eyesight and Civilization*.—(1) R. B. CARTER: Influence of Eyesight on Civilization. *Journal of the Society of Arts*, Vol. 33, p. 239. (2) EDWARD G. LORING: Is the Human Eye Changing its Form Under the Influence of Modern Education? New York, 1878, pp. 26. (3) D. B. S. ROOSE: The Human Eye as affected by Civilization. *Cosmopolitan*, Vol. 13, p. 759. (4) C. ROBERTS: Eyesight of Savage and Civilized People. *Journal of the Anthropological Institute*, Vol. 15, p. 127.

III. SCHOOLS FOR BLIND CHILDREN.

There are in the United States thirty-six State public institutions for the blind. The Perkins Institution and Massachusetts School for the Blind is located at South Boston, Michael Anagnos, director. The Commonwealth makes ample provision there for the education of the blind children of the State. For further particulars regarding admissions, address the director of the Perkins Institution or the secretary of the State Board of Education. Besides this excellent and historic school, there is at Jamaica Plain a kindergarten for blind children.

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IV. TRUANTS AND JUVENILE DELINQUENTS.

Truancy is not in itself a crime, but it is the dangerous way that leads many a boy into crime. The boy who has broken away from the restraints of home and school, is not, by that act, a criminal, though he is giving rein to tendencies that will soon make him one. — *Edwin P. Seaver.*

Boys and girls are no longer sent to the reform schools for the purpose of receiving punishment, but to be educated and taught useful trades. The aim of the reform school is to protect the helpless, to train the incorrigible to obedience, and to reform those who have wandered from the right way, by education, by wholesome restraint, by moral and religious influences, and by the formation of industrial habits. — *William T. Harris.*

I. LITERATURE OF TRUANCY AND REFORMATORY EDUCATION.

(a) *Truancy.* — (1) GEORGE I. ALDRICH: Attendance and Truancy. *61st Annual Report of the State Board of Education of Massachusetts*, pp. 13-22. (2) OSCAR H. COOPER: Compulsory Laws and their Enforcement. Syracuse, 1890. (3) LINUS W. KLINE: Truancy as related to the Migratory Instinct. *Pedagogical Seminary*, January, 1898, Vol. 5, pp. 381-420. (4) J. F. MOSS: Truant Schools and Juvenile Offenders. *Good Words*, Vol. 22, p. 258. (5) JOHN D. PHILBRICK: Truancy and Compulsory Education. *Report of Boston School Committee*, 1862. (6) G. W. ROSS: Compulsory Education in Canada, Great Britain, Germany and the United States. Toronto, 1891. (7) EDWIN P. SEAVER: Care of Truants and Incorrigibles. *Educational Review*, May, 1894, Vol. 7, pp. 423-438. Also in *Proc. N. E. A. for 1894*, pp. 536-553. (8) GEORGE A. WALTON: School Attendance and Truancy in Massachusetts. *59th Annual Report of the State Board of Education of Massachusetts*. Boston, 1896, pp. 526-601 (an important report on the truancy question). (9) LINUS W. KLINE: The Migratory Impulse v. the Love of Home. *American Journal of Psychology*, October, 1898, Vol. X.

(b) *Reform Schools and Reformatory Education.* — (1) HENRY BARNARD: Preventive and Reformatory Education. *Barnard's American Journal of Education*, Vol. 3, pp. 561-818 (an important historical and descriptive study). (2) JACQUES BOUZON: Le Crime et l'École. Paris, 1896, pp. 175. (3) Z. R. BROCKWAY: The Elmira Reformatory. *Fortnightly Review*, Vol. 57, p. 729. (4) MARTHA S. A. CANFIELD: Reformatory, Charitable and Industrial Schools for the Young. Bureau of Education, Washington, 1875, pp. 208. (5) MARY CARPENTER: Juvenile

Delinquents: their Condition and Treatment. London, 1853, pp. 388 (a standard English work). (6) T. J. CHARLTON: Trades Teaching in a Juvenile Reformatory. *Proc. Nat. Conf. of Charities and Corrections for 1897*, pp. 115-120. (7) J. B. DAISH: Educational Aspects of a Reformatory. *Academy*, Vol. 4, p. 140. (8) G. W. GOBLER: The Juvenile Delinquent. *Proc. Nat. Conf. of Charities and Corrections for 1896*, pp. 352-367. (9) KARL C. HARTMANN: Der jugendliche Verbrecher im Strafhaus. Hamburg, 1892, pp. 51. (10) J. P. KEATING: Juvenile Crime and Public Methods of Prevention and Reclamation. Keating's Cyclopædia of Diseases of Children, Vol. 4, pp. 422-434. (11) WILL S. MONROE: Ueber die Behandlung der Verbrecher. *Die Kinderfehler*, January, 1898, Vol. 3, pp. 19-22. (12) W. DOUGLAS MORRISON: Juvenile Offenders. New York, 1897, pp. 317 (a work of great pedagogic value). (13) W. DOUGLAS MORRISON: Juvenile Offenders and the Conditions which produce them. *International Journal of Ethics*, Vol. 5, p. 162. (14) F. SCHOLZ: Die Charakterfehler des Kindes. Leipzig, 1891. (15) LUCY M. SICKELS: Industrial Training in Girls' [Reform] Schools. *Proc. Nat. Conf. Charities and Corrections for 1897*, pp. 127-131. (16) C. D. SHANLY: Juvenile Delinquency. *Atlantic Monthly*, Vol. 23, p. 279. (17) E. J. WENDELL: Educational Features of a Reform School. *Charities Review*, Vol. 3, p. 111. (18) R. A. WOODS: Life in the Massachusetts Reformatory. *Andover Review*, Vol. 13, p. 31. (19) WILLIAM T. HARRIS: Philosophy of Crime and Punishment. *Proc. Nat. Prison Association for 1890*, pp. 20.

See also the annual reports of the Lyman School for Boys at Westborough, Mass., the year book of the Elmira (N. Y.) Reformatory, the publications of the National and the Massachusetts Prison Associations and the reports of the International Prison Congress.

II. TRUANT AND REFORM SCHOOLS.

There are in the United States 88 truant and reform schools. There are 7 truant schools in Massachusetts, located as follows: Boston Parental School at West Roxbury, Hampden County Truant School at Springfield, Middlesex County Truant School at North Chelmsford, Essex County Truant School at Lawrence, Worcester County Truant School at Oakdale, the Plummer Farm School at Salem, and the Norfolk, Plymouth and Bristol Union School at Walpole.

The reform schools of Massachusetts are among the very best in America. The Lyman School for Boys is at Westborough, Theodore F. Chapin, superintendent; the State Industrial School for Girls is at Lancaster, Mrs. Luann Brackett, superintendent. In addition to these schools for delinquent boys and girls, there are two excellent reformatories in the State for adolescent offenders, the Massachusetts Reformatory at Concord, Joseph F. Scott, superintendent, and the Massachusetts Prison for Women at Sherborn, Ellen C. Johnson, superintendent.

WILL S. MONROE.

STATE NORMAL SCHOOL, WESTFIELD, MASS.

Child Study Outlines: Third Series.

V. NERVOUSNESS OF SCHOOL CHILDREN.

We have to do with a race of children more prone to nervous disorders than are the children of almost any other country, and this fact should be taken into account in determining how much focusing their minds will bear without injury. — *C. F. Folsom*.

There are few sanitary questions more fundamentally important to a nation than those which concern the mind and nervous system. Infectious fevers cause waste of life and money, consumption decimates the rising generations. From all this society speedily recovers. No plague ever destroyed a nation. But on the health of the mind and the nerves depend the moral strength, the intellectual progress, the social order and the very integrity of national institutions. — *Charles L. Dana*.

I. SYMPTOMS OF NEURASTHENIA.

(a) *Mental Symptoms*. — Mental irritability, depression, emotional excitement, morbid fears, lack of self control, persistent or fixed ideas, and weakness of memory and power of concentration.

(b) *Motor Symptoms*. — Exaggerated motility; tremors; convulsions; jerking, twitching movements of different groups of muscles.

(c) *Sensory Symptoms*. — Depression and loss, or increase and perversion, of sensation, and especially of tactile sensibility and sensibility to pain and temperature; feelings of numbness, prickling and creeping.

(d) *Trophic Disorders*. — Hypertrophy and atrophy of nerves, muscles, cutaneous and mucous tissues, joint degenerations, and various skin eruptions.

(e) *Vasomotor and Thermic Symptoms*. — Pallor and coolness or flushing and heat of the skin.

(f) *Secretory Symptoms*. — Excessive sweating or dryness.

II. LITERATURE OF NEURASTHENIA.

(a) *Causes and Treatment*. — (1) T. C. ALBUTT: Nervous diseases and modern life. *Eclectic Magazine*, May, 1895, Vol. 124, pp. 645-649. (2) G. M. BEARD: American nervousness. New York, 1881, pp. 352. (3) VIRGILE BOREL: Nervosisme ou neurasthénie. Lausanne, 1894, pp. 172.

(4) EDWARD COWLES: Neurasthenia and its mental symptoms. Boston, 1891, pp. 105. (5) CHARLES L. DANA: Text-book of nervous diseases. New York, 1893, pp. 549. (6) CHARLES L. DANA: Immigration and nervous diseases. *American Journal of Social Science*, 1888, Vol. 24, pp. 43-56. (7) EUGENE DUPUY: Heredity and nervous diseases. *Popular Science Monthly*, July, 1877, Vol. 11, pp. 332-339. (8) RICHARD KRAFFT-EBING: Nerviosität und neurasthenische Zustände. Vienna, 1895, pp. 210. (9) GRACE PECKHAM: Nervousness of Americans. *American Journal of Social Science*, 1886, Vol. 22, pp. 37-49. (10) M. ALLEN STARR: Familiar forms of nervous disease. New York, 1891, pp. 286-290. (11) G. T. STEVENS: Functional nervous diseases: their causes and their treatment. New York, 1877, pp. 217. (12) THEODOR ZIEHEN: Psychiatrie. Berlin, 1894, pp. 314-335. (13) HUGO W. ZIEMSEN: Neurasthenia and its treatment. In "Volkmann's Clinical lectures" London, 1894, pp. 53-86.

(b) *Nervousness in School Children*.—(1) RUDOLF ARNDT: Neurasthenia. Tuke's Dictionary of psychological medicine. Vol. 2, pp. 840-852. (2) CRICHTON BROWNE: Report on overpressure. London, 1885. (3) FREDERICH BURK: From fundamental to accessory in the development of the nervous system. *Pedagogical Seminary*, October, 1898, Vol. 6, pp. 5-64. (4) ELIZABETH CUMMINGS: The public schools and nervous children. *Education*, May, 1886, Vol. 6, pp. 549-554. (5) C. F. FOLSOM: Relation of our public schools to the disorders of the nervous system. In "Six lectures upon school hygiene." Boston, 1886, pp. 161-193. (6) JOHN A. HANCOCK: A preliminary study of motor ability. *Pedagogical Seminary*, October, 1894, Vol. 3, pp. 9-29. (7) PHILIP C. KNAPP: Influence of overwork in the schools in the production of nervous diseases in childhood. *Boston Medical and Surgical Journal*, July 9, 1896, Vol. 135, pp. 37-39. (8) W. O. KROHN: Nervous diseases of school children. *Child Study Monthly*, April, 1896, Vol. 1, pp. 354-368. (9) FRANZ C. MÜLLER: Ueber Schülerverbindung. Munich, 1896, pp. 16. (10) JOSIAH ROYCE: Mental defect and disorder from the teacher's point of view. *Educational Review*, October and November, 1893, Vol. 6, pp. 209-222 and 322-331. (11) E. H. RUSSELL: Exceptional children in school. *Educational Review*, December, 1893, Vol. 6, pp. 431-442. (12) H. SCHUSCHNY: Ueber die Nerviosität der Schuljugend. Jena, 1895, pp. 31 (briefly summarized in the Report of the Commissioner of Education for 1894-95, Vol. 1, pp. 457-460). (13) ADOLPH SELIGMÜLLER: Wie bewahren wir uns und unsere Kinder von Nervenleiden. Breslau, 1891, pp. 60. (14) FRANCIS WARNER: Study of children. New York, 1897, pp. 61-69. (15) THEODOR ZIEHEN: Neurasthenia. Rein's Encyklopädische Handbuch der Pädagogik, Vol. 5, pp. 92-96.

The first outline in this series gives references on cognate subjects, and the sixth outline of the series will give references on other functional neuroses.

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STATE NORMAL SCHOOL, WESTFIELD, MASS.

Child Study Outlines: Third Series.

VI. FUNCTIONAL NEUROSES AMONG SCHOOL CHILDREN.

Hereditary tendency to hysteria, bad education, indulgent parents and credulous teachers play the chief part in the production of chorea. — *Hugo W. von Ziemssen*.

The most important single exciting factor [in hysteria] is powerful emotion, and especially fear. Other emotions of an allied character — excitement, sorrow, anxiety — may bring on attacks. — *Charles L. Dana*.

Under the malign influences of epilepsy, nerve cells weaken, tissues starve, the assimilation of pabulum falters, the processes of circulation and nutrition are obstructed, and the enfeathered will totters upon its throne. — *Austin E. Osborne*.

I. SYMPTOMS OF FUNCTIONAL NEUROSES.

(a) *Choreic Symptoms*. — Muscular twitchings of the arms, shoulders and legs; awkwardness in the execution of delicate tasks; exaggerated movements of the face muscles, wrinkling of the forehead and knitting of the eyebrows. See also the symptoms for nervousness suggested in the fifth outline in this series.

(b) *Tests for Chorea*. — (1) Ask the child to hold up both hands open, with extended arms and palms toward you. If this is done steadily, both hands upright and both alike, nothing to choose between the positions of the two, then the child probably has not chorea. (2) Confirm this by another test: Let the child place its open hands upon yours, palm to palm. Looking then at the backs of the child's hands, observe whether the fingers and thumbs (and especially the latter) repose naturally, without tremor and without restraint.

II. LITERATURE OF FUNCTIONAL NEUROSES.

(a) *Chorea*. — (1) JAMES CARMICHAEL: Diseases in children. New York, 1896, pp. 520-538. (2) FREDERICK E. CHENEY: Errors of refraction and insufficiencies of the ocular muscles as causes of chorea. *Boston Medical and Surgical Journal*, Feb. 20, 1890. (3) T. S. CLOUSTON: Neuroses of development. Edinburgh, 1891, pp. 63-65. (4) CHARLES L.

DANA: Text-book of nervous diseases. New York, 1897, pp. 497-506. (5) JOHN A. HANCOCK: A preliminary study of motor ability. *Pedagogical Seminary*, October, 1894, Vol. 3, pp. 9-29. (6) PHILIP C. KNAPP: Influence of overwork in school in the production of nervous diseases in childhood. *Boston Medical and Surgical Journal*, July 9, 1896, Vol. 135, pp. 37-39. (7) E. H. LINDLEY: Some of the motor phenomena of mental effort. *American Journal of Psychology*, July, 1896, Vol. 7, pp. 491-517. (8) LINDLEY and PARTRIDGE: Some mental automatisms. *Pedagogical Seminary*, July, 1897, Vol. 5, pp. 41-60. (9) LUDWIG MEYER: Chorea and insanity. Tuke's Dictionary of Psychological Medicine, Vol. I., pp. 206-212. (10) WILL S. MONROE: Chorea among public school children. *American Physical Education Review*, March, 1898, Vol. 3, pp. 19-24. Also in *Die Kinderfehler*, September, 1898, Vol. 3, pp. 155-160. (11) JOSIAH ROYCE: Mental defect and disorder from the teacher's point of view. *Educational Review*, October and November, 1893, Vol. 6, pp. 209-222 and 322-331. (12) B. SACHS. Chorea. Keating's Cyclopædia of Diseases of children, Vol. 4, pp. 840-856. (13) M. ALLEN STARR: Familiar forms of nervous disease. New York, 1891, pp. 231-251. (14) G. T. STEVENS: Functional nervous diseases: their causes and their treatment. New York, 1887, pp. 217. (15) OCTAVIUS STURGES: Physical indications of injurious schooling. Transactions of the 7th International Congress of Hygiene and Demography, Vol. 4, pp. 20-27. (16) HUGO W. VON ZIEMSEN: Cyclopædia of Practical Medicine, Vol. 14, pp. 411-469.

(b) *Epilepsy*.—(1) L. F. BRYSON: The education of epileptics. *American Journal of Social Science*, 1894, Vol. 31, pp. 100-106. (2) JAMES CARMICHAEL: Diseases in children. New York, 1896, pp. 483-494. (3) T. S. CLOUSTON: Neuroses of development. Edinburgh, 1891, pp. 97-106. (4) CHARLES L. DANA: Text-book of nervous diseases. New York, 1897, pp. 463-475. (5) S. J. FORT: Psychical epilepsy. *Proceedings of Medical Officers of American Institutions for Feeble-minded*, 1889, pp. 400-406. (6) L. C. GRAY: Epilepsy. Keating's Cyclopædia of the diseases of children, Vol. 4, pp. 899-912. (7) GEORGE H. KNIGHT: Broader provision for epileptics. *Proceedings of Medical Officers of American Institutions for Feeble-minded*, 1886, pp. 423-427. (8) F. KÖLLE: Epilepsie und Erziehung epileptischer Kinder. Rein's Encyclopädisches Handbuch der Pädagogik, Vol. 1, pp. 873-902. (9) AUSTIN E. OSBORNE: Responsibility of epileptics. *Bulletin of the Psychological Section of the Medico-Legal Society*, November, 1893, Vol. 4, pp. 65-75. (10) GEORGE H. SAVAGE: Epilepsy and insanity. Tuke's Dictionary of Psychological Medicine, Vol. 1, pp. 452-456. (11) W. P. SPRATTLING: Industrial education for epileptics. *National Conference of Charities and Correction*, 1897, pp. 69-76. (12) M. ALLEN STARR: Familiar forms of nervous disease. New York, 1891, pp. 252-274. (13) See also the outline in this series on "Mentally Deficient Children."

(c) *Hysteria*.—(1) CHARCOT and MARIE: Hysteria. Tuke's Dictionary of Psychological Medicine, Vol. 1, pp. 618-641. (2) T. S. CLOUSTON: Neuroses of development. Edinburgh, 1891, pp. 106-110. (3) CHARLES

L. DANA: Text-book of nervous diseases. New York, 1897, pp. 476-496. (4) HAVELOCK ELLIS: Man and woman. London, 1896, pp. 278-285. (5) WILLIAM HIRSCH: Epidemics of hysteria. *Popular Science Monthly*, August, 1896, Vol. 49, pp. 544-549. (6) CHARLES K. MILLS: Hysteria. Keating's Cyclopædia of the Diseases of children, Vol. 4, pp. 958-1007. (7) P. SOLIER: Genèse et nature de l'hystérie. Paris, 1897. (8) THEODOR ZIEHEN: Hysteria. Rein's Encyklopädisches Handbuch der Pädagogik, Vol. 3, pp. 775-776.

Of historic interest to students of childhood is the movement familiarly known as the Crusade of the Children. Hecker's "Child Pilgrimages" and "The Children's Crusade" by George Z. Gray (Boston, 1870, pp. 242) will be found especially interesting in this connection.

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VII. SPINAL CURVATURE AND LOCOMOTOR ATAXIA.

Abnormal curvature of the spinal column is a deformity of quite common occurrence among children of the school-going ages; and though there has not been unanimity among surgical writers and others as to the most frequently operating causes, the fact appears to be pretty clearly established that the beginning of the trouble falls, in the great majority of cases, within those years during which the child is engaged in his school work. — A. G. YOUNG.

I. SYMPTOMS OF SPINAL CURVATURE.

Compare the two sides of the body of the child, and note variations, such as: left thigh (usually) measures slightly more in circumference than the right, and the left hip slightly higher than the right; projection of the angles of the ribs upon the unsupported side, the spaces between the ribs on the right side proportionally widened, and the lengthened body line lacking the curve presented by the opposite side; the left shoulder lower than the right, and the left hand accordingly reaching a lower point on the thigh than the right; head drooping toward the left shoulder, and chin in the opposite direction; the median line of the nose inclining to the left, and the left nostril a little more dilated than the right; cheek fold more or less erased on the left, and deepened and elongated on the right; the left lower lid pulled slightly downward, increasing the breadth of the opening at the outer angle of the eye.

II. LITERATURE.

(a) *Spinal Curvature*. — (1) JULIUS ALTHUS: On sclerosis of the spinal cord. London, 1886. (2) R. BARWELL: The causes and treatment of lateral curvature of the spine. London, 1895. (3) EDWARD H. BRADFORD: The causation and treatment of lateral curvature. *Communications of the Massachusetts Medical Society*, 1886, pp. 645-663. Also in *Proceedings of the 5th Meeting of the American Association for Physical Education*, 1890, pp. 66-74. (4) B. BROWN: Influence of the prevailing methods of

education on the production of deformity in young persons of both sexes, *American Social Science Association*, 1879. (5) J. M. CHARCOT: Localization of cerebral and spinal diseases. London, 1883, pp. 341. (6) R. A. CLARK: Physical defects of children. *Northwestern Monthly*, July, 1897, Vol. 8, pp. 24-31. (7) GEORGE W. FITZ: A study of measurements in curvature of the spine. *American Physical Education Review*, September, 1897, Vol. 2, pp. 185-187. (8) GEORGE W. FITZ: Bed posture as an etiological factor in spinal curvature. *Transactions of the American Orthopedic Association*, 1898. (9) V. P. GIBNEY: Lateral and functional curvatures of the spine. Keating's *Cyclopædia of the Diseases of Children*, Vol. 3, pp. 1001-1018. (10) EDWARD M. HARTWELL: The problem of school seating. Report of the Director of Physical Training. Boston School Document No. 4, 1895, pp. 82. (11) J. H. KELLOGG: Physical deterioration resulting from school life. *Proceedings of the National Educational Association*, 1896, pp. 899-911. (12) B. LEE: Pathology, diagnosis and treatment of angular curvature of the spine. Philadelphia, 1866, pp. 129. (13) R. TAIT MACKENZIE: Influence of school life on curvature of the spine. *American Physical Education Review*, December, 1898, Vol. 3, pp. 274-280. Also in *Proceedings of the National Educational Association*, 1898, pp. 939-948. (14) ELIZA M. MOSHER: Habitual postures of school children. *Educational Review*, November, 1892, Vol. 4, pp. 339-348. (15) NOBLE-SMITH: Curvature of the spine. London, 1889. (16) CHARLES L. SCUDDER: The muscular element in the etiology of lateral spinal curvature. *Proceedings of the 6th Meeting of the American Association for Physical Education*, 1891, pp. 105-118. (17) CHARLES F. TAYLOR: The pathology and treatment of lateral curvature of the spine. *Bulletin of the New York Academy of Medicine*, 1868, Vol. 3, pp. 288-304. (18) A. G. YOUNG: Spinal curvature and round shoulders. *7th Annual Report of the State Board of Health of Maine*, 1892, pp. 119-125.

(b) *Locomotor Ataxia*. (1) A. B. BONAR: Sensory disturbances in locomotor ataxia. *Medical Record*, 1897, Vol. 51, pp. 721-726. (2) CHARLES L. DANA: Hereditary ataxia and locomotor ataxia. Keating's *Cyclopædia of Diseases of Children*, Vol. 4, pp. 716-727. (3) MARY PUTNAM-JACOBI: Ataxia in the child. *Medical Record*, 1897, Vol. 51, pp. 761-765. (4) GEORGE H. SAVAGE: Locomotor ataxia as applied to neuroses. Tuke's *Dictionary of Psychological Medicine*, Vol. 2, pp. 750-751. (5) WILLIAM E. SMITH: Generic ataxia. *Boston Medical and Surgical Journal*, March, 1888.

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VIII. DEFECTIVE SPEECH: STUTTERING AND STAMMERING.

Permanent stuttering probably depends most frequently on congenital irritability and weakness of the syllabic co-ordinating apparatus; it is often impossible to discover any exciting cause. It makes its appearance during childhood, and increases up to the time of puberty. — *Adolph Kussmaul*.

The high per cent. of stutterers in the primary schools, as compared with pupils in the kindergartens, is strikingly brought out [in a study of the Boston school children]. It seems to me to be a highly significant fact that the amount of stuttering, both in boys and girls, is greatly augmented at the very time when instruction in reading aloud is begun. In view of this fact, the query naturally suggests itself: how far are kindergarten and primary school methods of language-training responsible for the prevalence of stuttering among our younger school children? — *Edward M. Hartwell*.

I. TREATMENT OF STUTTERING AND STAMMERING.

(a) *General Health*. — (1) The general health of the child, as far as possible, should be improved. (2) Frequently the stammerer needs medical treatment for hysteria and other affections of the nervous system. (3) Remedy any local affection, such as soreness of lips or tongue, bad teeth, etc. Even though these may not cause stammering, they help to accentuate and perpetuate it.

(b) *Training*. — (1) The stammerer should be trained to speak slowly and deliberately, and to avoid speaking when excited. (2) He should not persist in fruitless and painful efforts to force the word on which he is stammering, but stop and begin the word again. (3) He should be encouraged to read and recite aloud each day for considerable time, uttering his words and their component parts slowly and deliberately, and using more muscular effort in their pronunciation than ordinarily in conversation. (4) He should practise the utterance of those letters, or those combinations of letters, — generally the consonants, — which he finds it most difficult to evolve. (5) He should be so trained to regulate his inspirations as never to permit himself to speak with an insufficient supply of pulmonary air.

II. LITERATURE OF STUTTERING AND STAMMERING.

- (1) EMIL BEHNKE: Stammering: its nature and treatment. London, 1881, pp. 58. (2) ALEX. MELVILLE BELL: The principles of speech: with directions for the cure of stammering. London, 1865, pp. 254. (3) JOHN S. BRISTOWE: Stammering. Tuke's Dictionary of Psychological Medicine, Vol. 2, pp. 1191-1193. (4) JOSEPH COLLINS: The genesis and dissolution of the faculty of speech. New York, 1898, pp. 432. (5) DU FOUGERAY ET COUËTOUX: Manuel pratique des méthodes d'enseignement spéciales aux enfants anormaux. Paris, 1896, pp. 229-276. (6) H. GUTZMANN: Die Verhütung und Bekämpfung des Stotterns in der Schule. Leipzig, 1889. (7) H. GUTZMANN: Ueber periodisches Stottern und das Vorkommen des Stotterns bei verschiedenen Rassen. *Medizinisch-pädagogische Monatsschrift für die gesamte Sprachheilkunde*. 1897, Vol. 7, pp. 225-234. (8) H. GUTZMANN: Vorlesungen über die Störungen der Sprache und ihre Heilung. Berlin, 1893. (9) H. GUTZMANN: Zur Hygiene der Sprache des Kindes. *Seventh International Congress of Hygiene and Demography*. London, 1892, Vol. 4, pp. 241-246. (10) H. GUTZMANN: Die Sprachleute der Kindes und der Naturvölker. *Zeitschrift für pädagogische Psychologie*. January, 1899, Vol. 1, pp. 28-40. (11) EDWARD M. HARTWELL: Prevention and cure of stuttering. Proceedings of the National Educational Association, 1893, pp. 739-750. (12) EDWARD M. HARTWELL: Stuttering. Report of the Director of Physical Training. Boston School Document No. 8, 1894, pp. 69-96 (an important study). (13) FREDERICK HELMORE: Speakers, singers, and stammerers. London, 1874, pp. 98. (14) N. HEMMEN: Das Stottern: ein Beitrag zur Heilpädagogik. *St. Paulus-Gesellschaft*. Luxemburg, 1890, pp. 56. (15) ADOLPH KUSSMAUL: Die Störungen des Sprachens. Leipzig, 1877. (16) ADOLPH KUSSMAUL: Disturbances of speech. Ziemssen's Cyclopædia of Practical Medicine, Vol. 14, pp. 579-875 (in the main, a translation of the previously mentioned book — a standard German work). (17) HERMAN T. LUKENS: Language defects. *Northwestern Monthly*, July, 1897, Vol. 8, pp. 39-44. (18) G. H. MAUKEN: Some defects of speech: their causes and treatment. *Journal of American Medical Association*, 1898, Vol. 30, pp. 604-606. (19) G. H. MAUKEN: Two hundred cases of speech defects. *Therapeutic Gazette*, 1897, Vol. 13, pp. 580-585. (20) H. PIPER: Vorkommende Abnormitäten der Sprachwerkzeuge. *Medizinisch-pädagogische Monatsschrift für die gesamte Sprachheilkunde*, 1895, Nos. 5 and 6. (21) FRIEDRICH TRACY: The language of childhood. *American Journal of Psychology*, October, 1893, Vol. 6, pp. 107-138. (22) FRANCIS WARNER: The study of children. New York, 1897, pp. 114-118.

See also the second outline in this series, on the hearing of school children, for references on the teaching of speech to the deaf.

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